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(54) METHOD FOR PRODUCING POLYGLUTAMIC ACID THROUGH FED BATCH CULTURE OF BACILLUS LICHENIFORMIS

(57) Abstract:

PURPOSE: Provided is a method for producing polyglutamic acid with low production cost through fed batch culture of *Bacillus licheniformis* by controlling substrates of citric acid and maintaining low viscosity of the acid until the strain grows.

CONSTITUTION: A method for producing polyglutamic acid is comprised of the next steps of: i) cultivating *Bacillus licheniformis* in E medium lacking citric acid, but having 40g/L of glycerol, 125g/L of L-glutamic acid, 250g/L of citric acid, 3g/L of CaCl<sub>2</sub> 2H<sub>2</sub>O, 3g/L of MnSO<sub>4</sub> 5H<sub>2</sub>O, 500g/L of glycerol, and 3g/L of MgSO<sub>4</sub> 7H<sub>2</sub>O at 37 deg.C at pH 6.5–6.7; ii) adding citric acid to the medium; and iii) measuring the production of glutamic acid and cell condensation 9 hours later. Wherein, pH is controlled by 25% ammonia and 2M HCl while dissolved oxygen is changed by increasing the speed of a stirrer from 400 to 1000rpm. And cell growth is measured by spectrophotometer at 660nm.

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